

One of the most mysterious changes in the history of man inhabiting Europe at the end on the Middle Pleistocene (400-130 thousand years) is the introduction of more controlled methods of tool production ca. 300 thousand years ago. Archaeologists came to a conclusion that the change ended the Lower and started the Middle Palaeolithic in the territories where people till then used bifacial tools (areas west of the Rhine), and in the areas where flake and pebble tools were used (central Europe). The boundary between the two zones was – the Movius line – was called after name of American archaeologist who was among the first to see the difference.

The previous studies of the problem focussed on the area west of the above-mentioned line. It was thought that the propagators of the change were the early Neanderthals, and that the change was fast and had a uniform course, while the spread of innovations was due to the Acheulean culture. The concept, however, is imprecise. Firstly, in the light of modern genetic studies, the Neanderthals came into existence much earlier, so that the change is not tantamount to biological evolution. Secondly, considering the lack of precise chronological data from Central Europe, the concept of fast and uniform change is ungrounded. The model does not explain how the innovations reached the areas which earlier had not held classical Acheulean assemblages.

Attempting to solve these problems, we propose a hypothesis which in our opinion corresponds with the current and predicted state of the studies. According to this hypothesis, the course of settlement of the areas beyond the Movius line was complex and manifest as a great cultural differentiation. In Central Europe, the basis of the process was the pulsating character of human exploitation of areas near the glacial centres and the propagation of cultural trends from many directions. In this context, during both the Lower and the Middle Palaeolithic the area was populated by different groups, and thus at present we can not speak about an evolution of a single tradition, but of a mosaic of many industries which are effects of external or local technical solutions.

To ascertain the course and time frames of the change we intend to re-analyse the series of remains found in cave and open-air localities in Poland, the Czech Republic and eastern Germany, using uniform analytical methods of reconstruction of manufacturing of stone half-product and tools, and the age of their origin. For dating, we plan to use the achievements of modern physics in the form of thermoluminescence method which makes it possible to date such old finds. An important aspect will be recognition of environment in which people lived, and of the complicated geological history of the site after it was vacated by man.

The project should make it possible to solve several crucial problems pertaining to the Lower-Middle Palaeolithic transition. Firstly, we will learn when the improved technological system appeared in Central Europe and if the change had a radical character or if it was extended in time. We hope to find out if the change occurred at the same time and in the same conditions as on the western side of the Movius line. We should learn what methods were used by the Neanderthals during the whole period: we should ascertain if the solutions introduced in the Lower Palaeolithic (400-300 thousand years) and in the Early Middle Palaeolithic (300-130 thousand years) were similar or completely different. It is important to answer the question if the change brought about also modification of the mode of settlement and environment exploitation. The information should ultimately solve the question if the introduction of the above-mentioned technological innovation was associated with a regional source and with migration of human groups, for example from the west.